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EXAMINER	
TABATABAI, ABOLFAZL	

ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/989,181	BURG ET AL.	
	Examiner	Art Unit	
	Abolfazl Tabatabai	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment/Arguments

1. Applicant's arguments, (pages 11-13), filed on March 14, 2005 with respect to the rejection(s)of claim(s) 1-18,21,25 and 16 under DeLorme et al (U. S. 5,848,373) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ucuiyama et al (U. S. 6,834,250 B2) in view of Sengupta et al (U. S. 6,883,019 B1).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1,25-38, 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama et al (U. S. 6,834,250 B2) in view of Sengupta et al (U. S. 6,883,019 B1).

Regarding claim 1, Uchiyama discloses a context-aware imaging device, comprising:

an image capturing and display system that captures and displays an image containing a landmark of interest (column 3, lines 17-24).

However, Uchiyama is silent about the specific details regarding the step of:

a context interpretation engine that generates contextual information relating to the landmark, wherein the image capturing and display system and the context interpretation engine form a physically integrated unit.

In the same field of endeavor, however, Sengupta discloses providing information to a communications device comprising the step of:

a context interpretation engine that generates contextual information relating to the landmark (column 1, lines 51-58) , wherein the image capturing and display system and the context interpretation engine form a physically integrated unit (column 4, lines 55-61).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the context interpretation engine as taught by Sengupta in the system of Uchiyama because Sengupta provides Uchiyama an improved system which the signal interpretation engine can be made increasingly accurate by increasing the dimension or quality of the signal data.

Regarding claim 25, Uchiyama discloses the imaging device of claim 1, wherein the image capturing and display system can be selected from a group comprising a binoculars system, a telescope system, an eyeglass system, a camera system, a digital camera system, and a video camera system (column 5, lines 4-8).

Regarding claim 26, Uchiyama discloses the imaging device of claim 1, wherein the context interpretation engine further comprises a user interface that allows user inputs to the context interpretation engine (column 6, lines 594-67);

a storage that stores user inputs from the user interface, wherein the storage also stores the captured image of the landmark and its contextual information (column 22, lines 28-34).

Claim 27, is similarly analyzed as claim 25 above.

Claim 28, is similarly analyzed as claim 1 above.

Claim 29, is similarly analyzed as claim 25 above.

Regarding claim 30, Uchiyama discloses the image device of claim 28 wherein the image device is a cellular phone (column 5, lines 41-44).

Claim 31, is similarly analyzed as claim 29 above.

Regarding claim 32, Sengupta discloses the image device of claim 28, wherein the image device is a personal digital assistant (PDA) (column 1, line 50).

Regarding claim 33, Uchiyama discloses the image device of claim 28, wherein the retrieved information includes a name of the recognized landmark (column 13, lines 58-61).

Claim 34, is similarly analyzed as claim 4 above.

Claim 35, is similarly analyzed as claim 1 above.

Claim 36, is similarly analyzed as claim 33 above.

Claim 37, is similarly analyzed as claim 34 above.

Claim 38, is similarly analyzed as claim 1 above.

Claim 42, is similarly analyzed as claim 35 above.

Claim 43, is similarly analyzed as claim 1 above.

4. Claims 2-18, 21, 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama et al (U. S. 6,834,250 B2) and of Sengupta et al (U. S. 6,883,019 B1) as applied to claim 1 and further in view of DeLorme et al (U. S. 5,848,373).

Regarding claim 2, Uchiyama and Sengupta are silent about the specific details regarding the imaging device of claim 1, wherein context interpretation engine generates the contextual information by determining geographical information of the landmark in the captured image; searching a landmark database with the geographical information of the landmark to obtain the contextual information of the landmark. In the same field of endeavor, however, DeLorme discloses computer aided map system comprising the steps of:

determining geographical information of the landmark in the captured image (column 9, lines 19-29);

searching a landmark database with the geographical information of the landmark to obtain the contextual information of the landmark (column 10, lines 10-24). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use determining geographical information and searching a landmark database as taught by DeLorme in the system of Uchiyama because DeLorme provides Uchiyama an improved novel constant scale grid system which is enables visual, intuitive or other sensory correlation and coordination of spatially related location data. The grid system permits map reading without requiring quantitative

determination, analysis, or reasoning and without requiring mathematical calculations by the user.

Regarding claim 3, DeLorme discloses the imaging device of claim 1, wherein the context interpretation engine further comprises an area determination system that determines the geographical information of the landmark (column 10, lines 14-24);

a landmark database that stores geographical information of landmarks and their corresponding contextual information to provide the contextual information of the landmark if accessed with the geographical information of the landmark (column 64, lines 3-6).

Regarding claim 4, Uchiyama discloses the imaging device of claim 3, wherein the area determination system further comprises a location sensor that provides location information of the imaging device (column 3, line 31);

an orientation sensor that determines the direction in which the image capturing and display system is aiming (column 2, lines 9-12 and column 3, lines 17-24);
However, Uchiyama is silent about the specific details regarding the step of:

a context interpreter that generates the geographical information of the landmark by defining a segmented viewing volume within which the landmark is located using the location, the direction, and the orientation information.
In the same field of endeavor, however, DeLorme discloses computer aided map system comprising the step of:

a context interpreter that generates the geographical information of the landmark by defining a segmented viewing volume within which the landmark is located using the

location (column 10, lines 4-24), the direction (column 12, lines 40-44), and the orientation information (column 10, lines 14-24).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a segmented viewing volume as taught by DeLorme in the system of Uchiyama because DeLorme provides Uchiyama an improved novel constant scale grid system which is enables visual, intuitive or other sensory correlation and coordination of spatially related location data. The grid system permits map reading without requiring quantitative determination, analysis, or reasoning and without requiring mathematical calculations by the user.

Claim 5 is similarly analyzed as claim 4 above

Regarding claim 6, Uchiyama discloses the imaging device of claim 3, wherein the area determination system further comprises:

a location sensor that provides location information of the imaging device (column 3, lines 14-27);

a distance sensor that determines the distance to the landmark from the image capturing and display system (column 55, lines 44-60 of DeLorme); a context interpreter that generates the geographical information of the landmark from the location and distance information provided by the sensors (column 55, lines 44-60 of DeLorme).

Regarding claim 7, Uchiyama discloses the imaging device of claim 3, wherein the area determination system further comprises a location sensor that provides location information of the imaging device (column 3, lines 17-24);

an orientation sensor that determines the direction in which the image capturing and display system is aiming (column 1, line 31);

a distance sensor that determines the distance from the image capturing and display system to the landmark (column 3, lines 48-54);

a context interpreter that generates the geographical information of the landmark from the location (column 10, lines 4-24), the viewing direction (column 23, lines 8-15), and the distance information provided by the sensors (column 54, lines 40-51).

Regarding claim 8, DeLorme discloses the imaging device of claim 3, wherein the area determination system further comprises an image feature extractor that extracts searchable image features from the landmark in the captured image 9column 45, lines 1-3);

a context interpreter that uses the image features to search the landmark database for any landmark image with matching image features (column 43, lines 11-21).

Regarding claim 9, DeLorme discloses the imaging device of claim 3, wherein the area determination system further comprises a location sensor that provides location information of the imaging device (column 55, lines 44-50);

an image feature extractor that extracts searchable image features from the landmark in the captured image (column 45, lines 1-3);

a context interpreter that uses the image features and the location information to search the landmark database for any landmark image with matching image features and similar location information (column 43, lines 11-21).

Claim 10 is similarly analyzed as claim 8 above.

Regarding claim 11,DeLorme discloses the imaging device of claim 3, wherein the area determination system further comprises a zoom sensor that determines the viewing scope of the image capturing and display system (column 54, lines 40-51);

an image feature extractor that extracts searchable image features from the landmark in the captured image (column 45, lines 1-3);

a context interpreter that uses the image features and the viewing scope information to search the landmark database for any landmark image with matching image features and within the viewing scope specified by the zoom sensor (column 43, lines 11-21;and column 64, lines 8-11).

Regarding claim 12, DeLorme discloses the imaging device of claim 3, wherein the area determination system further comprises a distance sensor that determines the distance from the image capturing and display system to the landmark (column 55, lines 44-50);

an image feature extractor that extracts searchable image features from the landmark in the captured image (column 45, lines 1-3);

a context interpreter that uses the image features and the distance information to search the landmark database for any landmark image with matching image features and within the distance specified by the distance sensor (column 43, lines 11-21 and column 55, lines 44-50).

Regarding claim 13, DeLorme discloses the imaging device of claim 3, wherein the area determination system further comprises a zoom and distance sensor that

determines the projection angle of the image capturing and display system, and the distance from the image capturing and display system to a geographical point at which the image capturing and display system is focused (column 57, lines 30-33);

an image feature extractor that extracts searchable image features from the landmark in the captured image (column 45, lines 1-3);

a context interpreter that uses the image features (column 13, lines 14-27), the projection angle and the distance information to search the landmark database for any landmark image with matching image features and within the projection angle and distance specified by the zoom and distance sensor (column 49, lines 55-66).

Regarding claim 14, DeLorme discloses the imaging device of claim 3, wherein the area determination system further comprises a location sensor that provides location information of the imaging device (column 55, lines 40-50);

an orientation sensor that determines the direction in which the image capturing and display system is aiming (column 10, lines 14-24);

a zoom and distance sensor that determines the projection angle of the image capturing and display system, and the distance from the image capturing and display system to a geographical point at which the image capturing and display system is focused (column 57, lines 30-33);

an image feature extractor that extracts searchable image features from the landmark in the captured image (column 45, lines 1-3);

a context interpreter that uses the image features, the projection angle and the distance information to search the landmark database for any landmark image with

matching image features and within the projection angle and distance specified by the zoom and distance sensor (column 43, lines 11-21 and column 49, lines 55-66).

Regarding claim 15, DeLorme discloses the imaging device of claim 3, wherein the area determination system further comprises a geographical information extractor coupled to the image capturing and display system to extract the geographical information of the landmark from the captured image (column 24, lines 14-24 and column 45, lines 1-5).

Claim 16, is similarly analyzed as claim 1 above.

Regarding claim 17,DeLorme discloses the imaging device of claim 1, wherein the context interpretation engine further comprises an updating module that can provide real time updates to the contextual and geographical information of each of the landmarks stored in the engine (column 24, lines 1-20).

Regarding claim 18, DeLorme discloses the imaging device of claim 17, wherein the updating module further comprises a wireless communication interface that establishes wireless communication with external wireless network (column 63, lines 42-45);

an update request module that browsers external Internet via the wireless communication interface to obtain the real time updates (column 24, lines 1-20).

Regarding claim 21, DeLorme discloses the imaging device of claim 1, wherein modules of the context interpretation engine reside in different enclosures, and have intermittent connectivity with each other(column 50, lines 59-67).

Claim 39, is similarly analyzed as claim 18 above.

Claims 40, and 41 are similarly analyzed as claim 4 above.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 19, 20 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama et al (U. S. 6,834,250 B2) and of Sengupta et al (U. S. 6,883,019 B1) as applied to claim 1 and further in view of Mark et al (U S 6,803,912 B1).

Regarding claim 19, Uchiyama and Sengupta are silent about the specific details regarding the imaging device of claim 1, wherein the image capturing and display system and the context interpretation engine reside inside a single enclosure.
In the same field of endeavor (displaying system), however, Mark discloses real time three-dimensional multiple display imaging system comprising the image capturing and display system and the context interpretation engine reside inside a single enclosure (column 18, lines 11-13).
It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the context interpretation engine reside inside a single

enclosure as taught by Mark in the system of Uchiyama because Mark provides Uchiyama an improved system which it gives the three-dimensional lenticular work creator the ability to view artwork changes instantaneously on a three-dimensional screen with regard to a lenticular image he is constructing, instead of having to reprint an image array many times on an inkjet or laser printer to fit the kind of three-dimensional viewing he wishes to make. Also this system may be used to illuminate large lenticular arrays to create an autostereoscopic display.

Regarding claim 20, Uchiyama and Sengupta are silent about the specific details regarding the imaging device of claim 1, wherein the image capturing and display system and the context interpretation engine reside in different enclosures, but still physically attached to each other to form the physically integrated unit.

In the same field of endeavor (displaying system), however, Mark discloses real time three-dimensional multiple display imaging system comprising the image capturing and display system and the context interpretation engine reside in different enclosures, but still physically attached to each other to form the physically integrated unit (column 18, lines 25-37).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the context interpretation engine reside inside a single enclosure as taught by Mark in the system of DeLorme because Mark provides DeLorme an improved system which it gives the three-dimensional lenticular work creator the ability to view artwork changes instantaneously on a three-dimensional screen with regard to a lenticular image he is constructing, instead of having to reprint

an image array many times on an inkjet or laser printer to fit the kind of three-dimensional viewing he wishes to make. Also this system may be used to illuminate large lenticular arrays to create an autostereoscopic display.

Regarding claim 22, Uchiyama and Sengupta are silent about the specific details regarding the imaging device of claim 1, further comprising a context rendering module coupled to the context interpretation engine to render the contextual information relating to the

landmark to the user of the imaging device.

In the same field of endeavor (displaying system), however, Mark discloses real time three-dimensional multiple display imaging system comprising a context rendering module coupled to the context interpretation engine to render the contextual information relating to the landmark to the user of the imaging device (column 2, lines 54-55).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the context interpretation engine reside inside a single enclosure as taught by Mark in the system of DeLorme because Mark provides DeLorme an improved system which it gives the three-dimensional lenticular work creator the ability to view artwork changes instantaneously on a three-dimensional screen with regard to a lenticular image he is constructing, instead of having to reprint an image array many times on an inkjet or laser printer to fit the kind of three-dimensional viewing he wishes to make. Also this system may be used to illuminate large lenticular arrays to create an autostereoscopic display.

Regarding claim 23, DeLorme discloses the imaging device of claim 22, wherein the context rendering module is a display that can be either separated from or overlaid with a display of the image capturing and display system (column 23, lines 45-53).

Regarding claim 24, DeLorme discloses the imaging device of claim 22, wherein the context rendering module is an audio player (column 59, lines 64-67).

Other Prior Art

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mitchell et al (U S 6,175,343 B1) disclose method and apparatus for operating the overlay of computer-generated effects onto a live image.

Zediker et al (U S 5,781,229) disclose multi-viewer three-dimensional virtual display system and operating method therefor.

Azvine et al (U S 6,779,060 B1) disclose multimodal user interface.

Carr et al (U S 6,389,151 B1) disclose printing and validation of self-validating security documents.

Rhoads et al (U S 6,614,914 B1) disclose watermarking embedder and reader.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to ABOLFAZL TABATABAI whose telephone number is (571) 272-7458.

The Examiner can normally be reached on Monday through Friday from 9:30 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the

Examiner's supervisor, Jingge Wu, can be reached at (571) 272-7429. The fax phone number for organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abolfazl Tabatabai

Patent Examiner

Group Art Unit 2623

March 16, 2006

A- Tabatabai